

**NORMAL FIRE REHABILITATION PLAN SUPPLEMENT
ENVIRONMENTAL ASSESSMENT
STAG MOUNTAIN FIRE (X-246)
BLM/EK/PL-2001/071**

Introduction:

This Supplemental Environmental Assessment (EA) tiers to the Elko Field Office FY 2000 Normal Fire Rehabilitation Plan Environmental Assessment (NFRPEA) BLM/EK/PL-2000/037. The Proposed Action includes the following NFRPEA Treatments: 1 (Construction and Repair of Fence to Facilitate Grazing Closure), 2 (Planting of Multiple Species Seed Mixtures), 4 (Construction of Erosion and Sediment Control Structures), 5 (Dozer Line Rehabilitation), 6 (Road Repair), 8 (Non-native Invasive Weed Species Control), and 10 (Cultural Resource Site Stabilization and Protection). The format of this Supplement EA follows the outline in the Emergency Fire Rehabilitation Handbook, BLM Manual Handbook H-1742-1, dated July 27, 1999, and is consistent with the draft Interagency Burned Area Emergency Stabilization and Rehabilitation Handbook, Version 1.0, dated June 14, 2001.

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Project Area Description:

A. Fire Description:

The Stag Mountain Fire started by a lightning strike and was reported on August 3, 2001. This fire was declared controlled on August 10, 2001. The Stag Mountain Fire burned a total of 19,579 acres, which encompasses 19,532 acres of public land administered by the BLM and 47 acres of private land in Elko County, Nevada. Three grazing allotments were affected by this fire: Deeth, Devils Gate, and Stag Mountain. Approximately 13,382 acres of public land were

burned in the Deeth Allotment. Approximately 4,302 acres of public land were burned in the Devils Gate Allotment. Approximately 1,848 acres of public land and 47 acres of private land were burned in the Stag Mountain Allotment. The percentage of the allotments that burned varied from 5 to 10 percent. An abandoned cabin burned in this fire. Burn severity on the majority of the fire was low and “green-up” of perennial grass species and germination of new grass seedlings was visible after recent rains.

B. Vegetation and Soil Description:

Elevation range from 6,000 feet to 6,800 feet above mean sea level (AMSL) in the southern and eastern portions of the burned area to 7,600 feet AMSL in the north to northwestern portions of the burned area. Riparian zones occur along Indian Creek, Conners Creek, Hanks Creek, and Stag Creek. Vegetation in these riparian zones is dominated by sedges, rushes, willow, aspen and riparian grasses. Several springs are located throughout the west and southwest portions of the fire. Plant communities at mid to low elevations are dominated by Wyoming big sagebrush, basin big sagebrush, antelope bitterbrush, bluebunch wheatgrass, and Idaho fescue. Plant communities at higher elevations are dominated by low sagebrush, mountain big sagebrush, antelope bitterbrush, bluebunch wheatgrass, and Idaho fescue. Very little cheatgrass is found in the burn site. The forest community on Stag Mountain is dominated by quaking aspen. Fairly large aspen clones exist on the mid to higher elevations with typically smaller clones on the lower elevations of the mountain.

Soil information came from the Soil Survey of Elko County, Nevada, Central Part. Most of the burn occurred within five soil mapping units. Soils in the very northern tip of the burn formed in residuum and colluvium from rhyolite. They range from shallow to deep and are gravelly or very gravelly on the surface. They have slow to moderate permeability and rapid runoff. The wind erosion hazard is slight and the water erosion hazard is moderate on slopes greater than 15 percent and slight on slopes less than 15 percent. Small gullies occur along an old two track road. These soils primarily had moderate burn severity with some low on the east side. There were no signs of hydrophobicity.

The most extensive soil map unit occurs on mountains on 15 to 50 percent slopes. These soils are located in the southwestern portion and northern half of the burn. Depth ranges from shallow to deep over rhyolite. Textures range from loam to clay and there is a high gravel and cobble content throughout the soils. Runoff is rapid, and the water erosion hazard is primarily moderate. Wind erosion hazard is slight, although some areas of active wind erosion were observed following the burn in areas that had few surface coarse fragments. Numerous gullies and incised channels were observed during the field examinations, this was particularly evident along an old jeep trail where there were few surface coarse fragments. The old vehicle tracks had eroded into gullies. This area is proposed for treatment with approximately 38 straw bale check dams to prevent excessive amounts of sediment from reaching Conners Creek. Another area with a large gully extends from Conners Creek in section 34 northwest to a road in section 33, Township 41 North, Range 58 East. A watershed seed mix is proposed to treat this gully. Three other areas of

concern occur along lower Conners Creek and would be treated with aspen erosion mat to reduce runoff, sheet erosion, and bank erosion into Conners Creek. Soils along the drainageways in the southern part of the burn along Indian Creek and its tributaries, had high burn severity. These drainages would be treated with a watershed seed mix to reduce gully erosion and sediment loads into Indian Creek. These soils did not show any signs of hydrophobicity, however, even where all the vegetation was completely consumed by fire.

Similar soils are found south of Conners Creek and on the east half of the burn. They occur on crests and side slopes of hills and also formed from colluvium or residuum from rhyolite. Slopes are predominantly 4 to 15 percent, but there is a smaller component that occurs on 15 to 50 percent side slopes. Soils located on slopes less than 15 percent are shallow over rhyolite. Soils on the steeper slopes are moderately deep over bedrock. Textures range from loam to clay with a high gravel and or cobble content. Runoff is medium and wind and water erosion hazard are slight, however, bank sloughing along lower Conners Creek was widespread.

Soils south of Conners Creek, on the west side of the burn, occur on mountains on 8 to 50 percent slopes. They are shallow to deep over bedrock. Runoff is medium to rapid. Textures are very gravelly loams to clay loams, and permeability is moderately slow. Water erosion hazard is slight on slopes less than 30 percent, and moderate on greater than 30 percent slopes. Wind erosion hazard is slight.

The last soil association occurs to the east of Indian Creek in the southern part of the burn. These soils are shallow over rhyolite. They have loamy surface textures and loam to clay subsoils with very high gravel contents throughout the soil profile. Runoff is rapid and permeability is very slow to moderately slow. The wind erosion hazard is slight and the water erosion hazard is slight to moderate for these soils.

The dominant range sites within the burned area are:

Site Number	Site Name	Habitat Type
25x9	South Slope 12-14" P.Z.	Mountain big sagebrush-Antelope bitterbrush Bluebunch Wheatgrass
25x12	Loamy Slope 12-16" P.Z.	Mountain big sagebrush-Antelope bitterbrush Bluebunch Wheatgrass-Idaho Fescue
25x16	South Slope 14-18" P.Z.	Mountain big sagebrush-Antelope bitterbrush Bluebunch Wheatgrass-Mountain Brome
25x19	Loamy 8-10" P.Z.	Wyoming big sagebrush Bluebunch Wheatgrass-Thurber Needlegrass

25x24	Mountain Ridge	Low sagebrush-black sagebrush Idaho Fescue-Bluegrass species
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Proposed Project Treatments:

A. Revegetation:

1. Rangeland Aerial/Broadcast Seeding:

Approximately 7,688 acres would be aerially seeded within the Stag Mountain Fire perimeter. When possible, seed would be broadcast on snow to aid in germination and reduce seed consumption by rodents and birds. The purpose of the seeding is to provide forage for livestock and wildlife. This fire burned in year-long range for mule deer and pronghorn antelope. Seeding this area would also reduce the potential for the invasion of non-native invasive weed species. Aerial seeding is only proposed on 2 of the 3 allotments affected by this fire. The proposed treatment area would be seeded with Idaho Fescue and Secar Snake River Wheatgrass. The proposed acres are as follows:

Allotment	Acreage to be aerially seeded:
Deeth	3,998
Devils Gate	3,690
Total	7,688

2. Rangeland Drill Seeding:

Approximately 593 acres would be drill seeded within the Stag Mountain Fire perimeter. The entire area proposed to be drill seeded is within the Stag Mountain Allotment and would be seeded with Idaho Fescue and Secar Snake River Wheatgrass. The purpose of the seeding is to provide forage for livestock and wildlife. This fire burned in year-long range for mule deer and pronghorn antelope. Seeding this area would also reduce the potential for the invasion of non-native invasive weed species.

3. Wildlife Aerial/Broadcast Seeding:

Approximately 11,322 acres would be aerially seeded within the Stag Mountain Fire perimeter. When possible, seed would be broadcast on snow to aid in germination and reduce seed consumption by rodents and birds. The purpose of the seeding is to provide forage for livestock and wildlife. This fire burned in year-long range for mule deer and pronghorn antelope and sage grouse habitat. This seeding would also provide nesting, summer/early brood-rearing, and winter

habitat for sage grouse. Seeding this area would also reduce the potential for the invasion of non-native invasive weed species. Wildlife aerial seeding is proposed in all 3 allotments that were affected by this fire. The proposed acres and seed mixtures are as follows:

Allotment	Acreage to be aerially seeded:	Proposed Seed Mixture
Deeth	7,097	Wyoming big sagebrush Basin big sagebrush
Devils Gate	1,650	Wyoming big sagebrush Basin big sagebrush Antelope bitterbrush
	2,185	Wyoming big sagebrush Basin big sagebrush
Stag Mountain	390	Wyoming big sagebrush Basin big sagebrush
Total	11,322	

4. Wildlife Drill Seeding:

Approximately 1,593 acres would be seeded by dribbling and drilling within the Stag Mountain Fire perimeter. When possible, seed would be dribbled on snow to aid in germination and reduce seed consumption by rodents and birds. The purpose of the seeding is to provide forage for livestock and wildlife. This fire burned in year-long range for mule deer and pronghorn antelope. This seeding would also provide nesting, summer/early brood-rearing, and winter habitat for sage grouse. Seeding this area would reduce the potential for the invasion of non-native invasive weed species. Dribbling and drilling is only proposed on 2 of the 3 allotments affected by this fire. The proposed acreage and seed mixtures are as follows:

Allotment	Acreage to be seeded:	Proposed Seed Mixture
Deeth	1,000 (dribble)*	Antelope bitterbrush
Stag Mountain	593 (drill)	Wyoming big sagebrush Basin big sagebrush
Total	1,593	

* A block of 1,536 acres would be inventoried for cultural resources, however, only 1,000 acres would be actually seeded.

5. Watershed Aerial/Broadcast Seeding:

Approximately 58,750 linear feet or 11.13 miles or 30 acres of drainage would be aerially seed along Indian Creek and its tributaries. Indian Creek is a tributary to Conners Creek. These drainages would be seeded with Great Basin wildrye, Sodar streambank wheatgrass, Critana thickspike wheatgrass, and Canby bluegrass. When possible, seed would be broadcast on snow to aid in germination and reduce seed consumption by rodents and birds. The purpose of this seeding would be to aid in stabilizing the soils adjacent to Indian Creek, the Indian Creek tributaries, and the tributaries to Conners Creek. Seeding this area would reduce the potential for the invasion of non-native invasive weed species.

6. Non-native Invasive Weed Species Control:

Monitoring to detect noxious weed invasion of burned areas would be done on 24,000 acres of BLM administered public land within the Stag Mountain Fire perimeter. A small (approximately 1 acre or less) infestation of Canada thistle along the Deeth to Charleston Road in the Hanks Creek area was identified and documented by the Resource Advisors on the Stag Mountain Fire. Treatment would be done on this small infestation of Canada thistle in order to prevent further spread into the burned area. The BLM, Elko Field Office, Noxious Weed Database, identifies documented sites of Scotch thistle and hoary cress along the Deeth to Charleston Road, which provides the main access to the Stag Mountain Fire.

Long term monitoring (3 years) of existing weed locations throughout the burn would be conducted to determine the effectiveness of the proposed treatment and spread of existing non-native invasive weed species infestations. Any new infestations would be treated and monitored, as necessary. By treating prior to seed set and maturation, the spread of noxious weeds within the burned area would be controlled.

B. Structures:

1. Construct New Fence for Resource Protection:

Approximately 21.4 miles of new permanent fence and 5.4 miles of temporary fence would be constructed. The permanent fences would create a permanent pasture within the allotments and the temporary fences would be evaluated following establishment of the seeding and/or through the allotment evaluation process to determine if they would be maintained on a permanent basis. These fences are needed to protect the burn and seeding treatments, which would allow for vegetation to re-establish. Permanent and temporary fences are proposed on 2 of the 3 allotments affected by the fire. Following is a summary of the proposal:

Allotment	Miles of New Fence Proposed:	Type
Deeth	12	permanent, includes 4 cattleguards.
Stag Mountain	9.4	permanent
Stag Mountain	5.4	temporary
Total	26.8	

2. Repair Existing Fence for Resource Protection:

Approximately 16.1 miles of existing fence would be would be repaired or reconstructed. The purpose of this fence repair or reconstruction is required in order to maintain the integrity of the allotment boundary fence and to provide for proper rangeland and livestock management within the allotments.

Allotment	Miles of Proposed Existing Fence to be Repaired and Reconstructed:	Type
Deeth	10.9	repair
Stag Mountain	1	repair
Stag Mountain	0.7	reconstruction
Allotment Boundary Fences	1.5 (Deeth/Stag Mountain) 0.5 (Stag Mountain/Devils Gate) 1.5 (Deeth/Devils Gate)	Repair
Total	16.1	

C. Erosion Control Treatments:

1. Erosion or Sediment Control Structures:

A total of 38 straw bale check dams would be constructed and installed on three tributaries to Conners Creek.

Approximately 2,600 linear feet of excelsior mat would be installed along Conners Creek. The excelsior mat would be placed in three strips. The three strips in width would make the length of material 7,800 linear feet of excelsior mat to be installed along Conners Creek.

2. Dozer Line Rehabilitation:

Approximately 26.5 miles of dozer line would be seeded with Secar Snake River Wheatgrass. These areas would be drill seeded, where possible, and broadcast seeded using a dozer where the terrain is too steep or rough to use the drill. In areas where it is too steep, unsafe, or would cause more resource damage to use a dozer, the dozer line would be aerially seeded. The purpose of seeding the dozer line is to reduce the risk of erosion, stabilize the soil, and to encourage revegetation. Recontouring the dozer lines and regrading dozer piles was completed prior to the release of the dozers during the fire suppression activities.

3. Road Repair:

Deeth to Charleston Road: Segments of the approximately 28 miles of the main access road from Deeth to Charleston would require wetting, regrading, and graveling in order to re-establish the roadbed, re-establish drainage and to prevent widening of the existing road or the development and establishment of new roads or travel routes parallel to the existing road. The 28 miles of road from Deeth to Charleston is designated as an Elko County Road. The BLM would finalize an agreement with Elko County prior to conducting road maintenance activities in order to establish and define road repair activities, agency responsibilities, and cost reimbursement.

Mala Vista Ranch Road: Segments of this road would require wetting, regrading, and graveling in order to re-establish the roadbed, re-establish drainage and to prevent widening of the existing road or the development and establishment of new roads or travel routes parallel to the existing road. This road is located partially on public lands and private land owned and controlled by Wright Ranches. Two cattleguards were damaged on this road. These two cattleguards would be replaced.

Stag Creek Road Culvert Replacement: Two culverts that were damaged during fire suppression would be replaced on the road along Stag Creek. Replacement of these culverts would facilitate drainage on this road and prevent the road from receiving further damage during precipitation events and spring runoff.

D. Site Preparation: None

E. Other:

1. Cultural Resource Inventory:

Cultural resource inventories have been conducted on 26.5 miles of dozer line. As a result of the cultural inventory completed on the dozer line, on prehistoric archaeological site was discovered. Cultural inventories would be conducted on the proposed approximately 593 acres of drill seeding, 1,536 acres of area to be dribble seeded with antelope bitterbrush, 27 miles of new fence construction, and 28 miles of road proposed for maintenance. The cultural resource inventories would be conducted prior to the implementation of the proposed rehabilitation actions. Any cultural resources discovered during these inventories would be avoided.

2. Water Quality Monitoring Site:

Two water quality monitoring sites would be located on Conners Creek. These two water quality monitoring sites would be monitored for two years. Water quality is proposed to be monitored at the old staff gage site and at the lower end of the stream near the county road to monitor post fire effects. Monitoring would be done during spring runoff, mid-summer flows and low flows in the fall. Water quality parameters such as pH, temperature, turbidity, suspended solids and phosphate would be monitored to analyze the effects of the fire on this stream which provides habitat for Lahontan cutthroat trout (LCT). This stream would also be examined for excessive erosion and changes in stream channel after large precipitation events and spring runoff.

3. Aspen Stand Protection and Monitoring:

Six aspen clones were identified as potentially needing exclosures constructed around them to aid in the successful re-establishment of the clones. These six clones were in a deteriorated condition prior to the burn and an extended period of time would be required to try to re-establish the clones. Approximately 2 miles of permanent exclosure fences would be constructed around these six aspen stands in order to provide protection from livestock and help to insure there successful recovery.

Monitoring the aspen regeneration would be conducted for a period of three years to assess any impacts to the regeneration in case future protective measures are necessary to successfully regenerate the stands.

Consideration of Critical Elements and Resources:

The following critical elements of the human environment are not present or are not affected by the proposed action or alternative:

- ACECs
- Environmental Justice
- Farmlands, prime or unique
- Wastes, hazardous/solid
- Wild and Scenic Rivers
- Wilderness

Critical elements and resources brought forward for analysis:

A. Air Quality:

The burned area would be susceptible to wind erosion until revegetation occurs. Wind erosion can increase Particulate Matter #10 (PM#10) emissions causing exceedence of PM #10 air quality standards which can negatively affect human health. In addition, airborne dust can cause visibility and safety problems on roads in the area. The proposed vegetation and erosion control treatments would encourage regrowth of vegetation, thus reducing future potential air quality impacts.

B. Cultural Resources:

Few cultural resource inventories have been completed within the Stag Mountain Fire perimeter. However, typical cultural resources in this area include prehistoric archaeological sites and historic roads and homesteads associated with ranching. The BLM archaeologists have examined the 26.5 miles of dozer line constructed on this fire during suppression activities. This cultural resources inventory discovered one lithic scatter on the north end of the fire. Two abandoned cabins (one with associated corrals) and aspen exist within the burned area. The corrals at one cabin were burnt.

Portions of the old stage road that linked Charleston to Deeth may have been impacted. Most of this road is under the present County road, but some isolated segments are believed to remain. These could be subject to erosion, now that the fire has removed the ground cover. These remaining old stage road segments would be avoided during the rehabilitation efforts. Archaeological sites and cultural properties in this area must be afforded protection whenever possible. Section 106 of the National Historic Preservation Act mandates that the federal government would account for cultural resources in its projects and undertakings, including fire rehabilitation efforts. Ground disturbing activities such as dozer line rehabilitation and fence construction could damage cultural sites. Therefore, areas designated for potential ground

disturbance would be inventoried for cultural resources before the disturbance occurs in accordance with the State Protocol Agreement between the Nevada BLM and the Nevada State Office of Historic Preservation (SHPO). At a minimum, to reduce potential impacts to cultural resources, activities that involve mechanized surface disturbance of less than 10 cm depth would generally have transect spacing of 100 meters. More intense inventory would be used for highly sensitive areas. When surface disturbance is greater than 10 cm, then 30 meter transect intervals would be used.

All cultural resources discovered or relocated would be plotted on maps and at a minimum would be recorded on the Nevada IMACS short form. Resources except those previously determined not eligible, by the BLM and SHPO, or that have been fully mitigated, would be flagged for avoidance and avoided during rehabilitation activities. Flagging would be removed, as soon as possible, to minimize the potential for looting and vandalism.

C. Native American Religious Concerns:

By law, policy and executive order, BLM is required to undertake a good-faith consultation process with regional Native American tribal and band governments prior to projects that might affect Native American sacred areas, Traditional Cultural Properties or other traditional values. Native Americans would be consulted as appropriate prior to any ground disturbing activities or herbicide treatments. When the BLM obtains information identifying Traditional Cultural Properties or other areas having traditional or religious significance, then the BLM would insure that reasonable measures are taken to avoid impacts to these areas of concern to Native Americans.

D. Threatened, Endangered, Candidate, or Sensitive Species:

No threatened or endangered plant species are known to occur within the Stag Mountain Fire perimeter.

The bald eagle, a Federally listed threatened species, is a wintering species in some of the area affected by the Stag Mountain Fire with possible night roosts in higher elevation areas. No bald eagles occurred within or adjacent to the area during the fire. The bald eagle winters at low densities in northeastern and north-central Nevada. Although habitat for the Columbia spotted frog, a Federally listed candidate species, may potentially exist within the Conners and Hanks Creek drainages. Columbia spotted frogs are not known to occur in any of the locations affected by the Stag Mountain Fire.

Lahontan cutthroat trout (LCT), a federally listed threatened species, are known to exist within Conners and Hanks Creek, which are located within the Stag Mountain Fire perimeter. Habitat and population survey data is on file at the BLM, Elko Field Office. LCT are native to Conners Creek, which is an intermittent tributary to Hanks Creek located within the Marys River Subbasin. No other salmonid species occur in Conners Creek. Approximately 8.2 miles of

Conners Creek is located within the Deeth Allotment. LCT are native to Hanks Creek, which is a perennial tributary to Marys River. No other salmonid species occur in Hanks Creek. Approximately 17.2 miles of Hanks Creek is located on public lands within the Deeth Allotment.

The area provides habitat for golden eagles, burrowing owls, Swainson's hawks and ferruginous hawks, which are State of Nevada Listed Species. An historic golden eagle nest is located just outside the burn to the northeast. The area also provides lek, nesting, summer/brood-rearing, and winter habitat for sage grouse, a BLM Sensitive Species. The Nevada BLM policy is to provide State of Nevada Listed and BLM Sensitive Species with the same level of protection as is provided for candidate species to prevent further listings as threatened or endangered. Although the suspected causes of sage grouse decline are numerous, loss of habitat, including loss by fire, ranks at the top of the list. Rehabilitation of sage grouse habitat, and the prevention of invasion by fire prone annual weeds such as cheatgrass, is a wildlife priority of both the BLM and Nevada Division of Wildlife. The proposed seeding treatments and rest from grazing pressure are designed to help restore sagebrush habitat and/or reduce the impacts from the invasion or re-invasion of fire prone annual weeds. The artificial seeding of big sagebrush species and later successful establishment of these species from this effort would ensure that these species are on site as future seed sources, as well as cover and forage, in the event that natural sources were lost due to the fire and natural recovery is slow (See Migratory Bird Section below). Sage grouse would be able to more fully utilize the burn area with big sagebrush cover. Otherwise, many areas on the burn would likely be avoided until a semblance of shrubs naturally re-establish.

E. Migratory Birds:

The proposed restorative actions are located in a sagebrush habitat type. The Nevada Partners in Flight Bird Conservation Plan identifies the following bird species associated with this physiographic region: sage grouse (obligate), black rosy finch, ferruginous hawk, gray flycatcher, loggerhead shrike, vesper sparrow, prairie falcon, sage sparrow, sage thrasher, Swainson's hawk, burrowing owl, calliope hummingbird, Brewer's sparrow, Western meadowlark, black-throated sparrow, lark sparrow, green-tailed towhee, Brewer's blackbird, and horned lark.

The greatest threat to these sagebrush-dependant migratory bird species is type conversion of sagebrush communities. Maintaining complete, diverse sagebrush communities is integral to conservation efforts for these species. Wyoming and basin big sagebrush vegetation types generally do not naturally respond well to block burn configurations, such as large areas observed on the burn, where only relatively small intact stands still exist. Basin big sagebrush seed banks (viable residual seed dispersed last fall and winter) were likely lost as a result of the fire within the large blocks. Wyoming big sagebrush seed banks usually do not persist after the summer following seed dispersal in unburned areas, let alone burned areas. Recruitment would be slow from intact stands without rehabilitation. The proposed action is to seed the area with seed mixtures that include two big sagebrush species and antelope bitterbrush. The seed mixtures would help to provide wildlife cover and forage. Seeded plant establishment would help compete with any potential site-specific establishment of exotic annual plant species. This

should provide beneficial impacts to these species and is consistent with the conservation measures listed in Section 3(e) of the President's Migratory Bird Executive Order.

F. Wildlife:

The subject area provides mule deer summer range and crucial fawning habitat. The area also provides pronghorn antelope summer range and fawning habitat. Overall, there are approximately 100 bird species, 70 mammal species and several reptile and amphibian species that can be found in sagebrush habitats on the allotments with many more additional species also found in the vicinity of riparian and meadow habitats on a seasonal or year-long basis. The area provides habitat for many of these species.

Wildlife were adversely impacted by the Stag Mountain Fire primarily through temporary loss of habitat through removal of vegetation by the fire and the inability to escape resulting in some mortality. The proposed rehabilitation treatments include resting the area from livestock grazing and seeding with vegetation conducive to big game. This seeding would benefit wildlife by helping to restore critical forage and cover more quickly.

G. Grazing:

Closure to grazing within the burned area would be necessary to protect seeding efforts and aid in natural revegetation of burned public rangeland and riparian areas, while reducing the potential for future noxious weed infestations and cheatgrass invasion. Grazing closures would also improve future forage conditions for both livestock and wildlife. However, grazing closure and relocation of livestock would have some short term adverse impacts on ranchers in the area who normally use the allotments for grazing. The actual animal unit month (AUM) losses suffered by ranchers have not been determined at this point. Through field inventories and monitoring, GIS analyses, and consultation, cooperation, and coordination with individual permittees, specific rest periods and other grazing management options would be identified to reduce impacts to ranchers where possible.

H. Non-native Invasive Weed Species:

Fire suppression efforts, including use of engines and other mechanized vehicles, are likely to have introduced noxious weed species seed and spread cheatgrass into the burned area. It is unknown whether or not the vehicles and equipment were washed down for noxious weeds prior to arriving on this fire complex. Dozers used in the fire suppression activities were not only from Nevada, but also from California and Idaho. Therefore, the potential exists for these out of state dozers to have introduced noxious weed species not known to currently exist in Nevada. Water to suppress the fire was drafted out of several locations. One of the locations was on private ground along Marys River, which has Canada thistle along the edges. Potentially some thistle seed may have been in the water used to suppress the fire and was spread within the burn.

Approximately 1 acre infestations of Canada thistle, Scotch thistle, and hoary cress are known to exist along the Deeth to Charleston Road. In order to reduce the potential for an invasion of noxious weeds, Integrated Weed Management techniques would be implemented including chemical treatments and subsequent monitoring. When noxious weeds are discovered to have invaded the burned area, herbicide treatments would be implemented to reduce the spread of the noxious weeds. Monitoring and noxious weed treatments would help to prevent or reduce noxious weed infestations within the burned area.

I. Water Quality (surface/ground):

There are two perennial streams that flow through the Stag burn, Conners Creek and Indian Creek. Conners Creek is a Lahontan Cutthroat (LCT) stream that flows from Stag Mountain to Hanks Creek.

Water quality data has been collected numerous times during the 1990's at the Conners Creek staff gage that is located in the SW 1/4 section 34, Township 41 North, Range 58 East. The quality was generally suitable for cold water fisheries, however, turbidity and stream temperature were occasionally higher than desired for LCT. Electrical conductivity and suspended solids were low when measured. The pH ranged from 6.17 to 7.76, which is neutral. Discharge varied from a low of 2.5 gallons per minute to a high of 0.72 cubic feet per second (approximately 325 gallons per minute).

Water quality and discharge measurements were made at two locations on Conners Creek on September, 13, 2001 to examine whether the recent rain had washed enough ash into the creek to affect water quality. No definitive fire effect were observed, although the pH was 7.9 at the lower site near the county road, which is higher than any of the previous measurements taken upstream. Water quality is proposed to be monitored at the old staff gage site and at the lower end of the stream near the county road to monitor post fire effects.

Bank sloughing was observed at several locations along Conners Creek, especially in the lower reaches. Post fire hydrology impacts could include increased runoff from burned slopes, higher stream temperatures due to lack of vegetative shading, higher suspended sediment levels, increased turbidity, and increased pH from the ash. Aspen erosion mat is proposed to be installed in some of the areas where further bank erosion is likely to occur following rain on bare soils. Thirty-eight straw bale check dams are proposed along three drainages that are tributary to Conners Creek, along the western border of section 35. Fine alluvial material that lacks protective coarse fragments occurs there, and an old jeep trail has eroded into gullies. This area would move large amounts of sediment into Conners Creek following rain while still in an unvegetated condition, unless some sort of watershed treatments are done.

Indian Creek has flows similar to Conners Creek. No water quality data has been collected there because the fisheries values are not as high as Conners Creek. This stream, and its ephemeral tributaries, had high burn severity, and greatly increased runoff events can be expected following precipitation. Approximately 58,750 linear feet or 11.13 miles or 30 acres of watershed seed mix are proposed to be aerially seeded along these drainages to stabilize the riparian area, and reduce

peak flows and sediment loads into Indian Creek.

Another area of concern is along the northern portion of the burn. Several drainages have their confluence near a culvert by the Itcaina Ranch. The fire burned right up to the ranch house. Higher than normal runoff from the burned area would be expected following precipitation events which may threaten the culvert. The proposed drill and aerial seedings would reduce the risk of both culvert washout and flood damage to the county road near the ranch house.

Stag Creek is an intermittent and ephemeral stream that flows through the northwest portion of the burn. Several sections along the creek are incised and under higher than normal runoff events would deliver more sediment downstream toward the Itcaina Ranch. The proposed seeding would reduce the risk of this occurring.

J. Wetlands/Riparian Zones:

Conners Creek, Hanks Creek, Stag Creek, Indian Creek, and other riparian areas in the burned watersheds were impacted by the Stag Mountain Fire through loss of vegetation. Approximately 5.75 miles of Conners Creek was affected by the Stag Mountain Fire. Approximately 0.8 miles of Conners Creek burned with a high intensity. However, burn severity is considered less intense due to the riparian condition prior to the fire and high degree of response potential.

Approximately 3.4 miles of Conners Creek burned with a moderate intensity with the direct loss of woody riparian species being sporadic with most impacts occurring on the outside fringes of the riparian zone. Most of the moderate intensity burn areas are located within the confined canyon landform areas. Approximately 1.55 miles of Conners Creek burned with a light intensity, leaving either most or all of the riparian zone intact and functional. The dominant riparian species in Conners Creek include aspen, willow, chokecherry, Kentucky bluegrass, Nebraska sedge and a wide variety of grasses, rushes, and forbs. No portion of the Hanks Creek stream channel was affected by the Stag Mountain Fire. Only a portion of the Hanks Creek spring meadow/complex was affected by the Stag Mountain Fire with low burn severity. Potential indirect impacts to Conners and Hanks Creek include sediment loading, excessive overland runoff, increase in stream temperature, and changes in pH. Willows and perennial shrubs along streams should resprout naturally if grazing is prevented during the sensitive early growth stages. The proposed fencing and rest from grazing would allow for improvement of riparian areas.

The following recommendations would help reduce adverse impacts to LCT:

1. Aerially seed the burned portions of the Conners and Hanks Creek drainages with perennial grasses (refer to watershed aerial seeding project treatment). These species would accelerate stabilization of eroding watershed drainages and help reduce future sediment loading to the stream channel.

2. Reconstruct or repair existing fences (refer to proposed fencing projects treatment).
3. Continue the current stream and riparian habitat monitoring program on Conners and Hanks Creeks to allow for comparison of post-fire impacts to existing baseline information. Where determined necessary, collect water temperature and water quality data to evaluate fire impacts to LCT and develop future management recommendations.

K. Floodplains:

Only a very small portion of the burned area has a printed Federal Emergency Management Agency floodplain map. Most of the area is in Zone D, areas of undetermined but possible flood hazards. Both Conners Creek and Indian Creek would likely have a floodplain that is large enough to be mapped if FEMA had mapped the area.

The Indian Creek floodplain has little vegetation remaining after the fire to help reduce flood flows and prevent downstream flood damage. The proposed watershed seeding along Indian Creek and its tributaries should reduce the risk of flood hazards by providing grasses that will help bind the soil together and provide surface roughness to reduce velocity.

Conners Creek floodplain has some riparian vegetation that did not burn, but there are other areas that have little vegetation along the creek to trap sediments and reduce flood flows. The proposed straw bale check dams and erosion mat would reduce runoff rates and trap sediment. This would reduce the risk of large flood events down Conners Creek and possible downstream damage to the county road.

L. Forest Resources:

Quaking aspen is the only significant commercial forest species of concern. Both fairly large clones and remnant clones appear widely scattered throughout the Stag Mountain Fire perimeter. The aspen communities support an array of other species and have the highest bio-diversity of any upland forest type in the West. Most of these clones on Stag Mountain sustained stand replacement fire. The majority of the aspen clones should successfully regenerate with the proposed post fire grazing strategies, however, on several of the clones that were in a high degree of deteriorated stand condition, exclosures are planned to help sustain the stands regeneration over an extended period of time.

M. Visual Resources:

The Stag Mountain Fire is within Visual Resource Management (VRM) Class IV. The Class IV VRM objective is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. Within Class IV VRM areas, management activities may dominate the view and be the major focus of viewers attention. However, every attempt should be made to minimize the

impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

Both the fire itself and fire suppression activities such as creation of dozer lines, have resulted in visual impacts to the area. Changes in this class should be subordinate to the existing landscape.

Revegetation efforts are designed to blend into the background without attracting undue attention and aid in restoring the area to a more characteristic landscape. Construction of new fence would create a new linear feature into the landscape but would meet the Class IV VRM objective.

N. Cumulative Impacts:

Cumulative impacts for proposed Emergency Stabilization and Rehabilitation treatments are discussed in the programmatic FY 2000 Normal Fire Rehabilitation Plan Environmental Assessment (NFRPEA) BLM/EK/PL-2000/037, which is available for review at the BLM, Elko Field Office.

References:

United States Department of Agricultural. Natural Resource Conservation Service. 1997. Soil Survey of Elko County, Nevada, Central Part.

Project Cost Summary: (the cost summary information can be found in the Burned Area Emergency Rehabilitation (BAER) Plan 2001 and Accomplishment Report for the August 2001 Fire Complex.)

Project Maps: (project maps can be found in the Burned Area Emergency Rehabilitation (BAER) Plan 2001 and Accomplishment Report for the August 2001 Fire Complex.)

Cost/Risk Assessment: (the cost/risk assessment can be found in the Burned Area Emergency Rehabilitation (BAER) Plan 2001 and Accomplishment Report for the August 2001 Fire Complex.)

Native/Nonnative Worksheet: (the native/nonnative worksheet can be found in the Burned Area Emergency Rehabilitation (BAER) Plan 2001 and Accomplishment Report for the August 2001 Fire Complex.)

**NORMAL FIRE REHABILITATION PLAN SUPPLEMENT
FINDING OF NO SIGNIFICANT IMPACT
AND
DECISION RECORD
STAG MOUNTAIN FIRE (X-246)
BLM/EK/PL-2001/071**

Finding of No Significant Impact:

Based on the analysis of potential environmental impacts contained in the Normal Fire Rehabilitation Plan Supplemental Environmental Assessment BLM/EK/PL-2001/071, I have determined that the proposed action will not have significant impacts on the human environment and that an Environmental Impact Statement is not required.

Decision:

It is my decision to implement the Normal Fire Rehabilitation Plan (NFRP) Supplement as described in the Environmental Assessment for the Stag Mountain Fire BLM/EK/PL-2001/071. The Stag Mountain Fire burned a total of approximately 19,579 acres, which encompasses 19,532 acres of public land administered by the Bureau of Land Management, Elko Field Office, and 47 acres of private land in Elko County, Nevada. Of the 19,532 acres of public land that burned, approximately 13,382 acres were in the Deeth Allotment, 4,302 acres were in the Devils Gate Allotment, and 1,848 acres were in the Stag Mountain Allotment. The 47 acres of private land burned in the Stag Mountain Allotment.

Approximately 12,000 acres of the burned rangeland will be rehabilitated by planting of multiple species seed mixtures. Approximately 26.5 miles of dozer line will be rehabilitated.

Approximately 27 miles of new permanent and temporary fence will be constructed. Approximately 1.5 miles of the allotment boundary fence between the Stag Mountain Allotment and Deeth Allotment, 0.5 miles of the allotment boundary fence between the Stag Mountain and Devils Gate Allotment, and 1.5 miles of allotment boundary fence between the Deeth and Devils Gate Allotment will be repaired. Approximately 0.7 miles of existing fence will be reconstructed and 1 mile of existing fence will be repaired within the Stag Mountain Allotment. Approximately 10.9 miles of existing fence will be repaired within the Deeth Allotment.

Cultural resource inventories will be conducted on the proposed 593 acres of drill seeding, 1,536 acres of area to be dribble seeded with antelope bitterbrush, 27 miles of new fence construction, and 28 miles of road proposed for maintenance.

A small (approximately 1 acre) infestations of Canada thistle will be treated. Monitoring for noxious weed invasion within the burned and disturbed areas will be conducted and treatments will be applied when weeds are detected.

Approximately 28 miles of road that was damaged as a result of suppression activities will be repaired, including the installation of two culverts.

Two water quality monitoring stations will be established on Conners Creek. Water quality monitoring will be completed at these two locations for two years.

Exclosures will be constructed around six aspen clones in order to protect and aid in the successful re-establishment of these clones.

Post-fire grazing management, including the period of time needed for closure, will be determined based on monitoring and achievement of site specific resource objectives. Post-fire grazing management, including the period of time needed for closure, will be determined based on the BLM and Permittee agreements, monitoring, and achievement of site specific resource objectives.

Rationale:

Implementation of the proposed action described in the NFRP Supplement EA for the Stag Mountain Fire will protect soils in the burned area, including preventing potential loss of soil due to wind and water erosion; will reduce potential invasion and establishment of noxious weeds and cheatgrass; will provide quality forage for livestock and wildlife; and will facilitate meeting established standards and guidelines for livestock grazing.

The Wells Resource Management Plan (RMP) is silent for the proposed action. The proposed action is consistent with the objectives of the RMP and is consistent with federal, state, and local laws, regulations, and plans to the maximum extent possible.

Monitoring:

Post-treatment monitoring studies will be conducted to evaluate the effectiveness of the proposed treatments and to determine the time frame for reopening lands for grazing.

Helen Hankins
Elko Field Manager

Date